TDMS No. 96015 - 05 Test Type: CHRONIC Route: DOSED WATER

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

F1_R2

C Number:

C96015

Lock Date:

04/30/2004

Cage Range:

ALL

Date Range:

ALL

Reasons For Removal:

ALL

Removal Date Range:

ALL

Treatment Groups:

Include ALL

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Disposition Summary					
Animals Initially in Study Early Deaths	50	50	50	50	
Moribund Sacrifice	12	11	22	10	
Natural Death	7	6	3	5	
Survivors	•	· ·	· ·	· ·	
Terminal Sacrifice	31	33	25	35	
Animals Examined Microscopically	50	50	50	50	
ALIMENTARY SYSTEM					
Esophagus	(48)	(50)	(50)	(50)	
Epithelium, Hyperkeratosis	6 (13%)	8 (16%)	34 (68%)	46 (92%)	
Intestine Large, Cecum	(48)	(49)	(50)	(47)	
Inflammation, Chronic	1 (2%)	(10)	()	(,	
Ulcer	(=75)		1 (2%)		
Intestine Large, Colon	(48)	(50)	(49)	(47)	
Intestine Large, Rectum	(49)	(50)	(50)	(49)	
Intestine Small, Duodenum	(49)	(49)	(50)	(48)	
Congestion	(10)	(10)	1 (2%)	(15)	
Intestine Small, Ileum	(46)	(48)	(50)	(47)	
Intestine Small, Jejunum	(47)	(46)	(49)	(47)	
Liver	(50)	(50)	(50)	(50)	
Angiectasis, Focal	1 (2%)	5 (10%)	3 (6%)	3 (6%)	
Congestion	. (=75)	4 (8%)	2 (4%)	6 (12%)	
Degeneration, Cystic, Focal	5 (10%)	5 (10%)	8 (16%)	4 (8%)	
Fibrosis, Focal	1 (2%)	2 (1273)	2 (1273)	. (5,5)	
Hematopoietic Cell Proliferation	1 (2%)	3 (6%)			
Hemorrhage	(=,	- (- · - /	1 (2%)		
Hepatodiaphragmatic Nodule	5 (10%)	6 (12%)	3 (6%)	2 (4%)	
Inflammation, Chronic	28 (56%)	31 (62%)	29 (58%)	34 (68%)	
Necrosis	3 (6%)	- ()	== (==:=)	- (,-,	
Bile Duct, Hyperplasia	45 (90%)	47 (94%)	47 (94%)	46 (92%)	
Hepatocyte, Basophilic Focus	26 (52%)	32 (64%)	23 (46%)	25 (50%)	
Hepatocyte, Clear Cell Focus	24 (48%)	22 (44%)	19 (38%)	22 (44%)	
Hepatocyte, Cytologic Alterations, Focal	1 (2%)	5 (10%)	2 (4%)	6 (12%)	
Hepatocyte, Cytoplasmic Alteration, Focal	2 (4%)	- ()	= (· · · ·)	- ()	
Hepatocyte, Eosinophilic Focus	7 (14%)	8 (16%)	4 (8%)	7 (14%)	

TDMS No. 96015 - 05

Test Type: CHRONIC Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Hepatocyte, Mixed Cell Focus	26 (52%)	24 (48%)	19 (38%)	29 (58%)	
Hepatocyte, Necrosis		8 (16%)	7 (14%)	4 (8%)	
Hepatocyte, Necrosis, Focal	1 (2%)				
Hepatocyte, Vacuolization Cytoplasmic	37 (74%)	37 (74%)	36 (72%)	29 (58%)	
Serosa, Fibrosis		1 (2%)			
Mesentery	(14)	(18)	(18)	(15)	
Accessory Spleen	1 (7%)	1 (6%)			
Fibrosis			1 (6%)		
Pigmentation			1 (6%)		
Fat, Necrosis, Focal	9 (64%)	10 (56%)	12 (67%)	7 (47%)	
Oral Mucosa	(0)	(0)	(1)	(3)	
Pancreas	(49)	(50)	(50)	(50)	
Hyperplasia, Lymphoid	1 (2%)	, ,	. ,	1 (2%)	
Inflammation	. ,	2 (4%)		,	
Lipomatosis		,		1 (2%)	
Vacuolization Cytoplasmic			1 (2%)	,	
Acinus, Atrophy, Focal	24 (49%)	37 (74%)	33 (66%)	30 (60%)	
Acinus, Atrophy, Diffuse	,	,	,	1 (2%)	
Acinus, Cytoplasmic Alteration	1 (2%)			()	
Acinus, Hyperplasia, Focal	(/	1 (2%)		1 (2%)	
Duct, Cyst	24 (49%)	21 (42%)	24 (48%)	16 (32%)	
Salivary Glands	(50)	(50)	(50)	(50)	
Atrophy, Focal	1 (2%)	()	()	1 (2%)	
Vacuolization Cytoplasmic	(-/-/			1 (2%)	
Stomach, Forestomach	(50)	(49)	(50)	(50)	
Inflammation	(00)	(10)	2 (4%)	(00)	
Ulcer	1 (2%)	1 (2%)	4 (8%)	3 (6%)	
Epithelium, Cyst	. (= /3)	. (= /3)	. (0,0)	1 (2%)	
Epithelium, Hyperkeratosis				1 (2%)	
Epithelium, Hyperplasia	4 (8%)	2 (4%)	8 (16%)	7 (14%)	
Stomach, Glandular	(50)	(50)	(50)	(50)	
Cyst	(66)	(66)	(66)	1 (2%)	
Erosion	5 (10%)	4 (8%)	5 (10%)	6 (12%)	
Fibrosis	0 (1070)	. (0,0)	1 (2%)	1 (2%)	
Inflammation			. (270)	1 (2%)	
Inflammation, Focal	1 (2%)			1 (270)	
Ulcer	2 (4%)	2 (4%)	3 (6%)	3 (6%)	
Epithelium, Hyperplasia	2 (170)	2 (470)	3 (070)	1 (2%)	
Glands, Ectasia	4 (8%)	3 (6%)	3 (6%)	10 (20%)	
Glands, Hyperplasia	+ (070)	3 (070)	2 (4%)	2 (4%)	
Olariao, i lyperplasia	(0)	(0)	(3)	(5)	

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Epithelium, Hyperplasia Tooth Malformation	(1) 1 (100%)	(0)	1 (33%) (0)	2 (40%) (0)	
CARDIOVASCULAR SYSTEM					
Blood Vessel Aneurysm Hemorrhage	(2) 1 (50%) 1 (50%)	(0)	(3)	(0)	
Inflammation, Chronic Thrombosis Heart Cardiomyopathy Thrombosis	(50) 39 (78%) 2 (4%)	(50) 44 (88%)	1 (33%) 1 (33%) (50) 38 (76%) 3 (6%)	(50) 45 (90%) 1 (2%)	
ENDOCRINE SYSTEM					
Adrenal Cortex Accessory Adrenal Cortical Nodule Angiectasis	(50) 3 (6%)	(50) 3 (6%) 1 (2%)	(50) 3 (6%)	(50) 2 (4%) 3 (6%)	
Cytoplasmic Alteration, Focal Hematopoietic Cell Proliferation Hyperplasia, Focal	3 (6%) 1 (2%) 5 (10%)	7 (14%)	2 (4%) 1 (2%)	3 (6%) 8 (16%)	
Infiltration Cellular, Mixed Cell Necrosis	· · ·	1 (2%) 1 (2%)		1 (2%)	
Vacuolization Cytoplasmic Capsule, Inflammation, Focal Adrenal Medulla	6 (12%) 1 (2%) (50)	3 (6%) (50)	5 (10%) (49)	11 (22%) (49)	
Hyperplasia Hyperplasia, Focal Necrosis	1 (2%) 4 (8%)	9 (18%) 1 (2%)	1 (2%) 5 (10%)	4 (8%)	
Islets, Pancreatic Hyperplasia Parathyroid Gland	(49) 3 (6%) (46)	(50) (44)	(50) 2 (4%) (43)	(50) 5 (10%) (47)	
Hyperplasia Pituitary Gland	(50)	(50)	2 (5%) (48)	2 (4%) (49)	
Angiectasis Cyst Hemorrhage	7 (14%) 2 (4%) 5 (10%)	8 (16%) 3 (6%)	3 (6%) 4 (8%) 2 (4%)	6 (12%) 2 (4%) 2 (4%)	
Pars Distalis, Cyst	,	2 (4%)	3 (6%)	. ,	

TDMS No. 96015 - 05

Test Type: CHRONIC

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Pars Distalis, Cytoplasmic Alteration, Focal	4 (8%)	2 (4%)	3 (6%)	2 (4%)	
Pars Distalis, Degeneration, Cystic, Focal	1 (2%)	,			
Pars Distalis, Hyperplasia	0 (400()	0 (400()	1 (2%)	1 (2%)	
Pars Distalis, Hyperplasia, Focal Rathke's Cleft, Cyst	6 (12%)	8 (16%) 1 (2%)	2 (4%)	5 (10%)	
Thyroid Gland	(49)	(47)	(49)	(46)	
Ćyst	, ,	1 (2%)	. ,	(15)	
C-cell, Hyperplasia	38 (78%)	38 (81%)	45 (92%)	44 (96%)	
Follicle, Degeneration, Cystic, Focal	1 (2%)	1 (2%)	1 (2%)	4 (00()	
Follicle, Pigmentation, Focal Follicular Cell, Hyperplasia, Focal	5 (10%)	6 (13%)		1 (2%) 4 (9%)	
Folliculai Celi, Hyperpiasia, Focal	5 (10%)	0 (13%)		4 (9%)	
ENERAL BODY SYSTEM					
Peritoneum	(2)	(6)	(0)	(2)	
Inflammation Mesothelium, Tunica Vaginalis, Hyperplasia	2 (100%)			1 (50%)	
Tissue NOS	(1)	(0)	(2)	(1)	
Abdominal, Fibrosis	(1)	(3)	1 (50%)	1 (100%)	
Thoracic, Hemorrhage	1 (100%)		,	,	
ENITAL SYSTEM					
Coagulating Gland	(1)	(0)	(1)	(0)	
Inflammation	1 (100%)	(50)	(50)	(50)	
Epididymis Atrophy	(50)	(50) 1 (2%)	(50)	(50)	
Fibrosis		1 (2%)			
Granuloma Sperm		((- 7 - 7)		1 (2%)	
Inflammation	2 (4%)		1 (2%)		
Epithelium, Vacuolization Cytoplasmic	1 (2%)	()	4	1 (2%)	
Preputial Gland	(48)	(50)	(50)	(50)	
Cyst Degeneration, Cystic	1 (2%)		1 (2%) 2 (4%)	1 (2%)	
Hyperplasia, Cystic	1 (2%)	3 (6%)	2 (4%) 1 (2%)	1 (2%)	
Inflammation	27 (56%)	27 (54%)	24 (48%)	22 (44%)	
Prostate	(49)	(50)	(50)	(50)	
Inflammation	36 (73%)	29 (58%)	34 (68%)	33 (66%)	
Epithelium, Hyperplasia	7 (14%)	15 (30%)	5 (10%)	10 (20%)	
Seminal Vesicle	(50)	(49)	(50)	(50)	

TDMS No. 96015 - 05

Test Type: CHRONIC

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Atrophy, Focal		1 (2%)			
Epithelium, Hyperplasia		. (273)	1 (2%)		
Testes	(50)	(50)	(50)	(50)	
Atrophy	14 (28%)	10 (20%)	4 (8%)	6 (12%)	
Cyst	,	1 (2%)	,	,	
Hemorrhage		,	1 (2%)	1 (2%)	
Inflammation, Granulomatous				1 (2%)	
Interstitial Cell, Hyperplasia, Focal	3 (6%)	4 (8%)	7 (14%)	2 (4%)	
HEMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(50)	(50)	(50)	
Hyperplasia	2 (4%)	5 (10%)	4 (8%)	6 (12%)	
Hyperplasia, Histiocytic, Focal		1 (2%)		1 (2%)	
Lymph Node	(26)	(24)	(19)	(21)	
Ectasia				1 (5%)	
Fibrosis				1 (5%)	
Bronchial, Hyperplasia, Lymphoid				1 (5%)	
Deep Cervical, Hemorrhage	1 (4%)	1 (4%)			
Mediastinal, Ectasia	1 (4%)	1 (4%)	3 (16%)	1 (5%)	
Mediastinal, Hemorrhage	4 (15%)	2 (8%)	1 (5%)	4 (19%)	
Mediastinal, Hyperplasia, Lymphoid		2 (8%)	4 (21%)	1 (5%)	
Mediastinal, Pigmentation		1 (4%)		- /	
Pancreatic, Ectasia		2 (8%)	1 (5%)	2 (10%)	
Pancreatic, Hemorrhage	1 (4%)	3 (13%)	1 (5%)	4 (19%)	
Pancreatic, Hyperplasia, Lymphoid	1 (4%)	1 (4%)	. (==:)		
Pancreatic, Pigmentation	440	(2)	1 (5%)	(2)	
Lymph Node, Mandibular	(1)	(0)	(3)	(0)	
Ectasia	1 (100%)	(50)	(50)	(50)	
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)	
Atrophy	0 (40()	0 (40()	0 (40()	1 (2%)	
Ectasia	2 (4%)	2 (4%)	2 (4%)	4 (8%)	
Fibrosis	1 (2%)	4 (00()	4 (00()	0 (404)	
Hemorrhage		1 (2%)	1 (2%)	2 (4%)	
Hyperplasia, Histiocytic	0 (40()	4 (00()	1 (2%)	1 (2%)	
Hyperplasia, Lymphoid	2 (4%)	4 (8%)	2 (4%)	3 (6%)	
Spleen	(49)	(50)	(50)	(50)	
Accessory Spleen	4 (20/)	1 (2%)	2 (4%)		
Congestion	1 (2%)		2 (4%)	1 (20/)	
Fibrosis, Focal	3 (6%)	4 (90/)	3 (6%)	1 (2%)	
Hematopoietic Cell Proliferation	2 (4%)	4 (8%)	2 (4%)	3 (6%)	

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Hemorrhage Hyperplasia, Histiocytic, Focal Hyperplasia, Lymphoid Infiltration Cellular, Mixed Cell		1 (2%) 1 (2%)	1 (2%) 1 (2%) 1 (2%)	1 (2%) 1 (2%)	
Necrosis, Focal Pigmentation Lymphoid Follicle, Atrophy Red Pulp, Depletion Cellular Thymus Atrophy	1 (2%) 1 (2%) (43) 1 (2%)	(50)	2 (4%) 1 (2%) 1 (2%) (44)	1 (2%) (45)	
Ectopic Parathyroid Gland Hemorrhage Hyperplasia, Lymphoid	1 (2%)	1 (2%)		1 (2%)	
INTEGUMENTARY SYSTEM					
Mammary Gland Dilatation Fibrosis	(46) 13 (28%) 1 (2%)	(49) 9 (18%)	(47) 14 (30%)	(46) 9 (20%)	
Inflammation, Granulomatous, Focal Skin Cyst Epithelial Inclusion Hyperkeratosis, Focal	1 (2%) (50) 2 (4%)	(50) 2 (4%) 2 (4%)	(50)	(50) 1 (2%) 2 (4%)	
Inflammation, Focal Ulcer Epidermis, Hyperplasia, Focal Subcutaneous Tissue, Edema		1 (2%) 1 (2%)	1 (2%) 2 (4%)	1 (2%) 1 (2%) 1 (2%)	
MUSCULOSKELETAL SYSTEM					
Bone Fibrous Osteodystrophy Hyperostosis	(50)	(50) 1 (2%)	(50)	(50) 1 (2%)	
Femur, Hyperostosis Skeletal Muscle Fibrosis	(1)	(3)	1 (2%) (1) 1 (100%)	(1)	
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(50)	

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Compression, Focal	5 (10%)	8 (16%)	12 (24%)	9 (18%)	
Hemorrhage	4 (00/)	0 (40/)	1 (2%)	2 (40/)	
Hemorrhage, Focal Peripheral Nerve	4 (8%) (2)	2 (4%) (0)	3 (6%) (4)	2 (4%) (0)	
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(50)	
Congestion	1 (2%)	1 (2%)	2 (4%)	1 (2%)	
Hemorrhage			1 (2%)	1 (2%)	
Infiltration Cellular, Mixed Cell	0 (40()	2 (4%)		0 (40()	
Inflammation Metaplasia, Osseous, Focal	2 (4%) 1 (2%)	2 (4%)		2 (4%)	
Metaplasia, Osseous, Focal Metaplasia, Squamous, Focal	1 (2%)		1 (2%)		
Alveolar Epithelium, Hyperplasia	12 (24%)	10 (20%)	8 (16%)	6 (12%)	
Serosa, Fibrosis	. = (= . 73)	(== 75)	3 (1373)	1 (2%)	
Nose	(50)	(50)	(50)	(50)	
Foreign Body			1 (2%)	- 4	
Inflammation	0 (40()		1 (2%)	2 (4%)	
Nasolacrimal Duct, Inflammation Trachea	2 (4%) (50)	(50)	(50)	(50)	
Inflammation	(30)	(30)	(30)	1 (2%)	
SPECIAL SENSES SYSTEM					
Eye	(48)	(47)	(48)	(47)	
Atrophy	1 (2%)	(17)	1 (2%)	(17)	
Cataract	()		1 (2%)		
Edema			1 (2%)		
Retina, Degeneration	(==)	()	1 (2%)	()	
Harderian Gland	(50)	(50)	(50)	(50)	
Hyperplasia, Lymphoid, Focal Inflammation	1 (2%)	1 (2%)			
Epithelium, Hyperplasia, Focal	3 (6%)	3 (6%)	1 (2%)	6 (12%)	
Zymbal's Gland	(0)	(0)	(2)	(0)	
JRINARY SYSTEM					
Kidney	(49)	(50)	(50)	(50)	
Infarct	2 (4%)	1 (2%)	2 (4%)		

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 96015 - 05

Test Type: CHRONIC

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS MALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Mineralization			1 (2%)		
Nephropathy	48 (98%)	47 (94%)	45 (90%)	45 (90%)	
Renal Tubule, Accumulation, Hyaline Droplet	1 (2%)	7 (14%)	1 (2%)	1 (2%)	
Renal Tubule, Cyst	2 (4%)	,	,	1 (2%)	
Renal Tubule, Pigmentation	2 (4%)	2 (4%)		2 (4%)	
Urethra	(0)	(1)	(1)	(0)	
Urinary Bladder	(5 0)	(50)	(49)	(50)	
Hemorrhage	1 (2%)	` ,	1 (2%)	. ,	

*** END OF MALE ***

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Disposition Summary					
Animals Initially in Study	50	50	50	50	
Early Deaths					
Moribund Sacrifice	9	11	16	12	
Natural Death	12	4	5	7	
Survivors					
Terminal Sacrifice	29	35	29	31	
Animals Examined Microscopically	50	50	50	50	
ALIMENTARY SYSTEM					
Esophagus	(49)	(50)	(50)	(50)	
Ulcer				1 (2%)	
Epithelium, Hyperkeratosis	10 (20%)	8 (16%)	28 (56%)	48 (96%)	
Intestine Large, Cecum	(46)	(50)	(47)	(50)	
Intestine Large, Colon	(48)	(50)	(49)	(50)	
Intestine Large, Rectum	(49)	(49)	(48)	(49)	
Intestine Small, Duodenum	(49)	(50)	(50)	(49)	
Intestine Small, Ileum	(45)	(48)	(49)	(49)	
Intestine Small, Jejunum	(42)	(48)	(48)	(46)	
Liver	(50)	(50)	(50)	(50)	
Angiectasis, Focal	2 (4%)	1 (2%)	1 (2%)	3 (6%)	
Congestion	3 (6%)	5 (10%)	4 (8%)	6 (12%)	
Degeneration, Cystic, Focal	1 (2%)	3 (1070)	1 (2%)	· (· = / · o /	
Hematopoietic Cell Proliferation	. (270)		3 (6%)	1 (2%)	
Hepatodiaphragmatic Nodule	7 (14%)	5 (10%)	6 (12%)	3 (6%)	
Infiltration Cellular, Lymphocyte	. (,	3 (1373)	1 (2%)	3 (373)	
Inflammation, Chronic	35 (70%)	41 (82%)	30 (60%)	34 (68%)	
Thrombosis	1 (2%)	11 (0270)	00 (0070)	01 (0070)	
Bile Duct, Hyperplasia	29 (58%)	29 (58%)	32 (64%)	29 (58%)	
Hepatocyte, Basophilic Focus	39 (78%)	47 (94%)	41 (82%)	41 (82%)	
Hepatocyte, Clear Cell Focus	11 (22%)	15 (30%)	14 (28%)	14 (28%)	
Hepatocyte, Cytologic Alterations, Focal	6 (12%)	10 (20%)	16 (32%)	16 (32%)	
Hepatocyte, Eosinophilic Focus	2 (4%)	3 (6%)	6 (12%)	1 (2%)	
Hepatocyte, Mixed Cell Focus	2 (4%) 14 (28%)	25 (50%)	15 (30%)	25 (50%)	
Hepatocyte, Necrosis	2 (4%)	1 (2%)	6 (12%)	3 (6%)	
Hepatocyte, Necrosis Hepatocyte, Syncytial Alteration, Focal	2 (4%) 1 (2%)	I (270)	0 (1270)	3 (0 /0)	
		27 (549/)	20 (599/)	22 (469/)	
Hepatocyte, Vacuolization Cytoplasmic	22 (44%)	27 (54%)	29 (58%)	23 (46%)	

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Species/Strain: RATS/F 344 Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Mesentery	(20)	(11)	(17)	(15)	
Accessory Spleen		1 (9%)		1 (7%)	
Fat, Necrosis, Focal	14 (70%)	8 (73%)	10 (59%)	11 (73%)	
Oral Mucosa	(0)	(0)	(1)	(1)	
Hyperplasia				1 (100%)	
Pancreas	(50)	(50)	(50)	(50)	
Acinus, Atrophy, Focal	12 (24%)	20 (40%)	19 (38%)	17 (34%)	
Acinus, Atrophy, Diffuse		1 (2%)			
Acinus, Cytoplasmic Alteration				1 (2%)	
Acinus, Hyperplasia	1 (2%)				
Acinus, Hyperplasia, Focal	1 (2%)				
Duct, Cyst	8 (16%)	13 (26%)	7 (14%)	4 (8%)	
Salivary Glands	(50)	(50)	(50)	(50)	
Atrophy, Focal	1 (2%)	, ,	` '	, ,	
Stomach, Forestomach	(50)	(50)	(50)	(50)	
Erosion	` '	` '	1 (2%)	1 (2%)	
Inflammation		1 (2%)	1 (2%)	, ,	
Ulcer	5 (10%)		1 (2%)	2 (4%)	
Epithelium, Hyperplasia	4 (8%)	4 (8%)	8 (Ì6%)	4 (8%)	
Stomach, Glandular	(49)	(50)	(50)	(50)	
Erosion	4 (8%)	,	4 (8%)	1 (2%)	
Inflammation, Focal	,		,	1 (2%)	
Mineralization		1 (2%)		,	
Ulcer		,	2 (4%)	1 (2%)	
Epithelium, Hyperplasia	1 (2%)		()	(/	
Glands, Ectasia	10 (20%)	4 (8%)	10 (20%)	26 (52%)	
Glands, Hyperplasia	,	,	,	2 (4%)	
Neuroendocrine Cell, Hyperplasia				1 (2%)	
Tongue	(2)	(1)	(5)	(7)	
Epithelium, Hyperplasia	1 (SO'%)	1 (100%)	2 (40%)	6 (86%)	
Tooth	(1)	(0)	(0)	(0)	
Peridontal Tissue, Inflammation	1 (100%)	()	()	()	
ARDIOVASCULAR SYSTEM					
Heart	(50)	(50)	(50)	(50)	
Cardiomyopathy	34 (68%)	36 (72%)	36 (72%)	35 (70%)	
Thrombosis	3 (6%)	(2 (4%)	1 (2%)	
Endocardium, Hyperplasia	- ()	1 (2%)	= (· · · ·)	- (=,-)	

TDMS No. 96015 - 05

Test Type: CHRONIC

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(50)	(50)	(50)	
Accessory Adrenal Cortical Nodule	6 (12%)	1 (2%)	1 (2%)	2 (4%)	
Angiectasis	5 (10%)	1 (2%)	3 (6%)	1 (2%)	
Cytoplasmic Alteration, Focal	2 (4%)	, ,	4 (8%)	1 (2%)	
Hyperplasia	1 (2%)		,	,	
Hyperplasia, Focal	2 (4%)	9 (18%)	10 (20%)	8 (16%)	
Infiltration Cellular, Mixed Cell	` ,	,	1 (2%)	2 (4%)	
Necrosis			, ,	1 (2%)	
Pigmentation	1 (2%)				
Vacuolization Cytoplasmic	9 (18%)	8 (16%)	9 (18%)	6 (12%)	
Adrenal Medulla	(49)	(50)	(50)	(50)	
Angiectasis			1 (2%)		
Hyperplasia, Focal	2 (4%)	2 (4%)	1 (2%)	5 (10%)	
Infiltration Cellular, Mixed Cell				1 (2%)	
Vacuolization Cytoplasmic, Focal			1 (2%)		
Islets, Pancreatic	(50)	(50)	(50)	(49)	
Hyperplasia		1 (2%)	1 (2%)		
Parathyroid Gland	(42)	(42)	(43)	(43)	
Atrophy	1 (2%)				
Hyperplasia	1 (2%)				
Pituitary Gland	(49)	(48)	(50)	(50)	
Angiectasis	6 (12%)	3 (6%)	5 (10%)	7 (14%)	
Cyst	5 (10%)	3 (6%)	2 (4%)	4 (8%)	
Fibrosis, Focal				1 (2%)	
Hemorrhage	6 (12%)	4 (8%)		2 (4%)	
Hyperplasia, Histiocytic, Focal	1 (2%)				
Pars Distalis, Cyst	4 (8%)	6 (13%)	5 (10%)	12 (24%)	
Pars Distalis, Cytoplasmic Alteration, Focal	1 (2%)	2 (4%)		2 (4%)	
Pars Distalis, Hyperplasia				2 (4%)	
Pars Distalis, Hyperplasia, Focal	8 (16%)	7 (15%)	9 (18%)	10 (20%)	
Pars Intermedia, Hyperplasia, Focal	1 (2%)				
Pars Intermedia, Vacuolization Cytoplasmic,			1 (2%)		
Focal					
Rathke's Cleft, Cyst	1 (2%)		1 (2%)	1 (2%)	
Thyroid Gland	(46)	(48)	(48)	(46)	
C-cell, Hyperplasia	38 (83%)	44 (92%)	45 (94%)	42 (91%)	

GENERAL BODY SYSTEM

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
None					
SENITAL SYSTEM					
Clitoral Gland	(50)	(50)	(47)	(50)	
Cyst				1 (2%)	
Degeneration, Cystic	2 (4%)	2 (4%)	4 (9%)	6 (12%)	
Hyperplasia		1 (2%)			
Hyperplasia, Cystic	4 (8%)	3 (6%)	8 (17%)	4 (8%)	
Inflammation	7 (14%)	2 (4%)	1 (2%)	3 (6%)	
Metaplasia, Squamous			1 (2%)		
Ovary	(50)	(50)	(50)	(50)	
Angiectasis	1 (2%)				
Cyst	3 (6%)	4 (8%)	3 (6%)	6 (12%)	
Oviduct	(1)	(0)	(1)	(0)	
Uterus	(5 0)	(ŠÓ)	(ŠÓ)	(5 0)	
Decidual Reaction	,	1 (2%)	,	,	
Hemorrhage	1 (2%)	2 (4%)		1 (2%)	
Cervix, Hypertrophy	1 (2%)	_ (. , . ,		(= / 5)	
Endometrium, Hyperplasia, Cystic	32 (64%)	38 (76%)	39 (78%)	32 (64%)	
Vagina	(6)	(2)	(7)	(7)	
Inflammation	(0)	1 (50%)	1 (14%)	2 (29%)	
Inflammation, Suppurative	1 (17%)	1 (0070)	1 (1170)	2 (2070)	
Epithelium, Cyst	1 (1770)		1 (14%)	1 (14%)	
Lpinionani, Oyot					
EMATOPOIETIC SYSTEM					
Bone Marrow	(49)	(50)	(50)	(50)	
Hyperplasia	3 (6%)	1 (2%)	5 (10%)	2 (4%)	
Hyperplasia, Histiocytic, Focal	1 (2%)	1 (2%)		1 (2%)	
Hyperplasia, Reticulum Cell, Diffuse		1 (2%)			
Inflammation, Granulomatous		1 (2%)			
Lymph Node	(21)	(15)	(23)	(15)	
Congestion	, ,		1 (4%)	` ,	
Deep Cervical, Hemorrhage	1 (5%)		1 (4%)		
Mediastinal, Ectasia	1 (̇5%́)		4 (17%)		
Mediastinal, Hemorrhage	7 (33%)	6 (40%)	6 (26%)	3 (20%)	
Mediastinal, Hyperplasia, Histiocytic	(-2.5)	- (/ - /	1 (4%)	- \ - /-/	
Mediastinal, Hyperplasia, Lymphoid	1 (5%)	2 (13%)	4 (17%)	2 (13%)	
Mediastinal, Inflammation, Granulomatous	1 (5%)	_ (,	. (, . ,	= (.0,0)	

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Mediastinal, Pigmentation		1 (7%)		1 (7%)	
Pancreatic, Amyloid Deposition			1 (4%)		
Pancreatic, Ectasia	1 (5%)	- ()	- ()	- (()	
Pancreatic, Hemorrhage	3 (14%)	2 (13%)	2 (9%)	2 (13%)	
Pancreatic, Inflammation, Granulomatous	1 (5%)	(0)	(0)	(0)	
Lymph Node, Mandibular	(3)	(2)	(2)	(2)	
Ectasia	1 (33%)	(50)	(50)	(50)	
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)	
Ectasia Hemorrhage	1 (2%)		2 (4%)	1 (2%)	
Hyperplasia, Lymphoid	2 (4%)	1 (2%)	1 (2%)	2 (4%)	
Inflammation, Granulomatous	1 (2%)	1 (2%)		2 (4%)	
Pigmentation	1 (2%)	1 (276)			
Spleen	(50)	(50)	(50)	(50)	
Hematopoietic Cell Proliferation	4 (8%)	2 (4%)	4 (8%)	5 (10%)	
Hyperplasia, Histiocytic, Focal	2 (4%)	2 (470)	+ (070)	3 (1070)	
Inflammation, Granulomatous	1 (2%)	1 (2%)			
Pigmentation	6 (12%)	1 (270)		1 (2%)	
Lymphoid Follicle, Atrophy	3 (1270)			1 (2%)	
Thymus	(48)	(49)	(48)	(49)	
Hemorrhage	(15)	(12)	(/	1 (2%)	
Hyperplasia, Lymphoid	2 (4%)	1 (2%)		(=,=)	
NTEGUMENTARY SYSTEM					
Mammary Gland	(49)	(50)	(50)	(50)	
Dilatation	38 (78%)	41 (82%)	33 (66%)	(30) 32 (64%)	
Fibrosis	38 (7678)	1 (2%)	2 (4%)	1 (2%)	
Galactocele	2 (4%)	1 (270)	2 (470)	1 (2%)	
Skin	(50)	(50)	(50)	(49)	
Cyst Epithelial Inclusion	(30)	(50)	1 (2%)	(40)	
Ulcer	1 (2%)	1 (2%)	1 (270)	1 (2%)	
Subcutaneous Tissue, Fibrosis, Focal	1 (2%)	1 (270)		1 (270)	
Subcutaneous Tissue, Necrosis, Fatty	. (= /0)		1 (2%)		
IUSCULOSKELETAL SYSTEM					
Bone	(50)	(50)	(50)	(50)	
Hyperostosis	,	,	,	1 (2%)	
Cranium, Hyperostosis			1 (2%)	• ,	

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L	
Skeletal Muscle	(3)	(0)	(0)	(0)	
NERVOUS SYSTEM					
Brain Compression, Focal Hemorrhage, Focal Spinal Cord Atrophy, Focal Hemorrhage, Focal	(50) 12 (24%) 2 (4%) (5) 1 (20%)	(50) 12 (24%) 1 (2%) (3)	(50) 19 (38%) 1 (2%) (2)	(50) 6 (12%) 2 (4%) (4) 1 (25%)	
RESPIRATORY SYSTEM					
Lung Congestion Hemorrhage	(50) 3 (6%) 1 (2%)	(50) 1 (2%)	(50) 1 (2%) 1 (2%)	(50) 2 (4%) 2 (4%)	
Hyperplasia, Histiocytic, Focal Inflammation Metaplasia, Squamous, Focal	3 (6%) 1 (2%)	1 (2%) 1 (2%)	3 (6%)	7 (14%)	
Alveolar Epithelium, Hyperplasia Interstitium, Edema	10 (20%) 1 (2%)	5 (10%)	2 (4%)	5 (10%)	
Nose Nasolacrimal Duct, Inflammation Trachea	(50) (50)	(50) 1 (2%) (50)	(50) (50)	(50) 1 (2%) (50)	
SPECIAL SENSES SYSTEM					
Eye Atrophy Cataract Exudate	(47) 3 (6%) 1 (2%)	(50) 2 (4%) 2 (4%)	(50) 1 (2%)	(48) 3 (6%)	
Retina, Degeneration Harderian Gland Degeneration, Cystic, Focal Hyperplasia, Lymphoid, Focal	2 (4%) (50) 1 (2%)	2 (4%) (50)	(50)	(50) 1 (2%)	
Inflammation Epithelium, Hyperplasia, Focal Zymbal's Gland	4 (8%)	(0)	1 (2%) 1 (2%) (1)	1 (2%) (0)	

TDMS No. 96015 - 05

Test Type: CHRONIC

Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion

WATER DISINFECTION BYPRODUCTS (DIBROMOACETONITRILE)

CAS Number: 3252-43-5

Pathologist: FARNELL, D. - HEATH, J. - JOKINEN, M.

Date Report Reqsted: 06/09/2006 Time Report Reqsted: 12:50:37 First Dose M/F: 09/05/01 / 09/05/01

Lab: SRI

FISCHER 344 RATS FEMALE	0 MG/L	50 MG/L	100 MG/L	200 MG/L
JRINARY SYSTEM				
Kidney	(50)	(49)	(50)	(49)
Congestion	` ,	, ,	, ,	1 (2%)
Infarct	1 (2%)	1 (2%)		4 (8%)
Infiltration Cellular, Lymphocyte			1 (2%)	
Mineralization		1 (2%)		
Nephropathy	33 (66%)	36 (73%)	44 (88%)	43 (88%)
Pelvis, Inflammation, Chronic	1 (2%)	, ,	, ,	7 (14%)
Renal Tubule, Accumulation, Hyaline Droplet	11 (22%)	18 (37%)	17 (34%)	14 (29%)
Renal Tubule, Cyst	1 (2%)	1 (2%)	, ,	1 (2%)
Renal Tubule, Hyperplasia, Focal	` ,	` ,	1 (2%)	, ,
Renal Tubule, Pigmentation	1 (2%)		, ,	
Urinary Bladder	(50)	(50)	(49)	(50)

*** END OF REPORT ***

TDMS No. 96015 - 05

Test Type: CHRONIC Route: DOSED WATER

a - Number of animals examined microscopically at site and number of animals with lesion